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NIXON PEABODY, LLP 401 9TH STREET, NW SUITE 900 WASHINGTON, DC 20004-2128			CRAIG, DWIN M	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/675,778	<b>Applicant(s)</b> LANGEMYR ET AL.	
	<b>Examiner</b> DWIN M. CRAIG	<b>Art Unit</b> 2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-71,75-83,85-87,89-93 and 95-122 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-71,75-83,85-87,89-93 and 95-122 is/are rejected.
- 7) ☒ Claim(s) 32 and 33 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/14/2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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### **DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Board of Patent Appeals and Interferences, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 7/26/2008 has been entered.

2. Ayal I. Sharon is no longer the Examiner of record, Dwin McTaggart Craig is now the Examiner of record.

3. Claims 1, 3-71, 75-83, 85-87, 89-93 and 95-101 have been presented for reconsideration based on Applicants' arguments and amended claim language. Claims 102-122 have been presented for Examination.

### ***Response to Arguments***

4. Applicants' arguments presented in the 7/26/2008 responses have been fully considered; the Examiner's response is as follows:

4.1 As regards the arguments set forth on page(s) 26-30 of the 7/26/2008 responses, Applicants' argued that the amendments to the instant claims and the newly presented claims have overcome the previously applied rejections under 35 U.S.C. § 101. The Examiner has found Applicants' arguments, in combination with the instant amendments, to be persuasive and hereby withdraws the previously applied 35 U.S.C. § 101 rejections as set forth in the Final Office Action dated 9/12/2006. It is noted by the Examiner that Applicants' claimed *method* or *process*

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claims are now linked to a specific apparatus and are therefore directed towards statutory subject matter.

**4.2** A careful and comprehensive search has been performed, as required by MPEP section 904.03. The updated search has revealed new art.

### ***Drawings***

**5.** New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the drawing submitted on 6/14/2007 do not have the label "Replacement Sheet" affixed as required, see below. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

### **INFORMATION ON HOW TO EFFECT DRAWING CHANGES**

#### **Replacement Drawing Sheets**

Drawing changes must be made by presenting replacement sheets which incorporate the desired changes and which comply with 37 CFR 1.84. An explanation of the changes made must be presented either in the drawing amendments section, or remarks, section of the amendment paper. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). A replacement sheet must include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of the amended drawing(s) must not be labeled as "amended." If the changes to the drawing figure(s) are not accepted by the examiner, applicant will be notified of any required corrective action in the next Office action. No further drawing submission will be required, unless applicant is notified.

Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and within the top margin.

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### **Annotated Drawing Sheets**

A marked-up copy of any amended drawing figure, including annotations indicating the changes made, may be submitted or required by the examiner. The annotated drawing sheet(s) must be clearly labeled as "Annotated Sheet" and must be presented in the amendment or remarks section that explains the change(s) to the drawings.

### **Timing of Corrections**

Applicant is required to submit acceptable corrected drawings within the time period set in the Office action. See 37 CFR 1.85(a). Failure to take corrective action within the set period will result in ABANDONMENT of the application.

If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings MUST be filed within the THREE MONTH shortened statutory period set for reply in the "Notice of Allowability." Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136 for filing the corrected drawings after the mailing of a Notice of Allowability.

### ***Claim Objections***

6. Claims 32 and 33 are objected to because the current claim language is grammatically awkward, using claim 32 as an example, the following phrase, *wherein one of said plurality structural systems being modeled is a one-dimensional geometry model* would read better if amended to say, *wherein one of said plurality of structural systems being modeled is a one-dimensional geometry model*.

Correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1, 3-71, 75-83, 85-87, 89-93 and 95-122 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,810,370 to Watts in view of U.S. Patent 5,408,638 to Sagawa.

7.1 As regards independent claims 1, 42, 82, 92, 116, 117, 119, 121 and 122 and using independent claim 1 as an example, *a method executed in a computer system with at least one physical computing device for producing a model of a combined structural system having physical quantities by representing physical quantities of said combined structural system* (Watts teaches a *structural system* see Figures 1-9 and the descriptive text more specifically, Col. 4 lines 28-45 more specifically, “The present invention provides a new method for simulating a physical

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*system* which is numerically represented by *partial differential equations*” *emphasis added*) in terms of a combined set of partial differential equations (Col. 1 lines 15-63 and as regards the teaching of nonlinear partial differential equations as described in Applicants’ specification on page 16 see Col. 2 lines 2-7 more specifically, “...the equations that model the reservoir are nonlinear partial differential equations...”), said method comprising;

*representing at least one of a plurality of structural systems as two or more selected application modes modeling physical quantities of said at least one of said plurality of structural systems;*

**Claim Interpretation**, the Examiner is interpreting the claimed *application modes*, to mean different types of phenomena can be modeled using the claimed *partial differential equations*, see Figure 3 item 32 of Applicants’ specification, which teaches various physical phenomena that can be modeled using the partial differential equations.

*Watts* teaches *selected application modes of physical quantities of a structural system* (see Col. 4 lines 38-42 more specifically, “in a broad sense to include momentum transport (viscous flow), energy transport (heat conduction, convection, and radiation), and mass transport (diffusion). The present invention can be applied to widely different areas such as physics, rock characterization, crystallography, electrical engineering, biology, mathematics, fluid mechanics, and petroleum engineering...” see also Col. 5 lines 9-47).

*using a first physical computing device, determining a set of partial differential equations for each of said two or more selected application modes, parameters of said partial differential equations being physical quantities of corresponding ones of said plurality of structural systems;*

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*using said first physical computing device or a second physical computing device, forming said combined set of partial differential equations using determined sets of partial differential equations associated with said one of said plurality of structural systems; and*

However, Watts does not expressly disclose, outputting to a display device or a communication device said model of said combined structural system based on said combined set of partial differential equations for the two or more selected application modes for said one of said plurality of structural systems, whereby said model represents a mathematical expression of said physical quantities of said combined structural system.

*Sagawa* teaches outputting to a display device a model of a structural system based on a set of partial differential equations (as to a teaching of differential equations see Col. 1 lines 26-46 as to a teaching of displaying a model using differential equations see Col. 21 lines 42-48 more specifically, “A user can observe the graphic display of the results via the interface 17.” See also Figures 22-24 and as regards a teaching of a structural system model being displayed and manipulated see Col. 9 lines 28-67 and Col. 10 lines 1-61) and *Sagawa* teaches the use of two computer apparatus, see Col. 8 lines 14-16.

*Watts* and *Sagawa* are analogous art because they both come from the same problem solving area of modeling structural systems using partial differential equations using a computing device.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have *displayed a model of a structural system using a computing device*.



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The motivation for doing so would have been to provide an easy to use method of performing a numerical simulation that require little or no training in order to obtain a useful simulation result, see Col. 3 lines 25-40 as well as Col. 22 lines 24-39 of *Sagawa*.

Therefore, it would have been obvious to combine the teachings of *Sagawa* with the teachings of *Watts* in order to obtain the invention as specified in claims 1, 3-71, 75-83, 85-87, 89-93 and 95-122.

**7.2** As regards the dependent claims that depend from independent claim 1, more specifically claims 2-34, 102-110, see the following;

**7.3** As regards claims 3, 4 and 5 and using dependent claim 3 as an example, *Watts* teaches or discloses the same functionality of *representing at least one of said physical quantities of a first of said plurality of application nodes using at least one dependent variable in said set of partial differential equations corresponding to said first of said plurality of application modes*, (see Col. 7 lines 38-51).

**7.4** As regards claim 6, *Watts* teaches a *numerical value and a mathematical expression* (Col. 16 & 17 tables 1 & 2 and teaches numerical values and Col. 5 lines 9-47 teach *mathematical expressions*).

**7.5** As regards claim 7, *Watts* teaches a *time coordinate* “time-step” (Col. 6 lines 57-67 and Col. 7 lines 1-6) *Watts* teaches physical quantities as well see Col. 1 lines 15-26.

**7.6** As regards claim 8, 9 and 10 and using claim 8 as an example, *Watts* does not expressly teach a *subdomain with each application mode* however, *Sagawa* teaches Figures 7, 9 & 10 and the descriptive text see also Figures 21-23.

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**7.7** As regards claim 11, *Watts* teaches *boundary conditions* and so does *Sagawa* see Figure 8 item 244 “Boundary Condition Class” and further see Figure 8 item 118, “BOUNDARY CONDITION” also see *Watts* Figures 8 & 9 and the descriptive text and see also Col. 5 lines 3-9 and Col. 6 lines 4-13 more specifically, “In this patent the term *boundary* is sometimes used interchangeably with the term connection” *emphasis added*.

**7.8** As regards claim 12, *Watts* teaches coefficients however, *Watts* does not expressly disclose *modifying* coefficients, *Sagawa* teaches modifying *at least one coefficient of said partial differential equation*, (Figure 39 item 3906 and more specifically, Col. 13 lines 4-45 more specifically, “...calculating a compressibility coefficient...” calculating is functionally the same as *modifying*).

**7.9** As regards claims 13 and 14 and using claim 14 as an example, *Watts* does not expressly disclose a GUI, however, *Sagawa* teaches the use of a GUI, see Figures 21-23 and the descriptive text.

**7.10** As regards claims 15-25 which are directed towards various methods of solving partial differential equations and more specifically and in regards to claims 16 and 17 and converting equations to various forms in order to solve such equations, this would be well known to an artisan of ordinary skill to convert equations into various forms and further *Watts* teaches modification of the equations using an additive correction or LSOR as disclosed in Col. 12 lines 5-24, which clearly teaches *solving said combined system of partial differential equations using a coefficient form of said set of partial differential equations* the Examiner further notes that when the iterative process as disclosed in *Watts* performs *summing the residuals over the cells of each string*, that this is functionally the same as a *combining system*. Further, and in regards to

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claim 16, *Watts* clearly teaches that the equations are, *using a general form of said combined system of partial differential equations* (see Col. 7 lines 38-51 more specifically, "...In the process of linearization, the algebraic equations will have different *forms* depending on the solution technique chosen...", *emphasis added*). As regards claims 17 and 18, see the description above of the teaching in *Watts* as regards *converting at least one set of partial differential equations included in said combined set of partial differential equations from coefficient to general form*, and as regards claims 19 & 20 and the teaching of a *nonlinear set of partial differential equations*, see Col. 2 lines 2-7 of *Watts*, further and in regards to using a Newton method see Col. 2 lines 21-52, more specifically "...One example is the well-known Newton-Raphson method...", as regards claims 22-25 are directed to various methods of using *solving*, *Watts* teaches solving, see the rejections above, further and in regards to claim 25, *Watts* teaches a *finite element method* see Col. 1 lines 42-63 more specifically, "...As a means for numerically solving such equations there are known the *finite element method*, the finite difference method, the finite volume method and the like..." *emphasis added*.

**7.11** As regards claim 26, *Watts* does not expressly disclose, *using a graphical user interface in connection with input data; storing said input data in a representation in a data structure stored in a memory of said first physical computing device or said second physical computing device; and converting said input into an intermediate form wherein said intermediate form for each partial differential equations associated with said one of said plurality of structural systems is used in forming said combined set*, however, *Sagawa* teaches, Figures 21-24 and the descriptive text, more specifically, (Col. 5 lines 1-9 and Col. 9 lines 26-68 and Col. 10 lines 1-61).

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**7.12** As regards claim 27, *Watts* teaches, *determining a submode setting associated with one or the sets of partial differential equations associated with said one of said plurality of systems; and determining a number of variables included in said one set of partial differential equations in accordance with said submode setting and a type of a corresponding application mode* (Col. 1 lines 16-55 and Col. 2 lines 1-24 and Col. 5 lines 9-47 and Col. 6 lines 7-31).

**7.13** As regards claim 28 *Watts* teaches, *wherein said submode is one of stationary, time dependent, linear, non-linear, scalar and multi-component* (see Figures 1-9 and as regards *time dependent* see Col. 7 lines 52-58, "...time-step...", as regards *linear* see Col. 7 lines 62-66, "...suitable linear equations...", as regards *scalar*, which is being interpreted to be the computation of residuals for the strings see Col. 12 line 51 as regards multiple component see Figures 1-9 as regards multiple components).

**7.14** As regards claim 29, *Watts* does not expressly teach *selecting at least one application mode*, however, *Sagawa* teaches processing input including an *application mode*, (see Figures 21-24 and the descriptive text).

**7.15** As regards claim 30, *Watts* teaches *wherein said at least one application mode* (see Col. 12 lines 61-65) however, *Watts* does not expressly disclose, *is one of predefined and user defined*. *Sagawa* teaches, using predefined and user defined application modes, see Figure 24 and the descriptive text.

**7.16** As regards claim 31, *Watts* does not expressly disclose, *modifying a set of routines associated with a predefined application mode to be used in connection with a user defined application mode*, however, *Sagawa* teaches a collection of predefined object oriented

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programming *routines* that can be used with a *user defined application mode* see Figure 26 and Figures 20, 7-17 and the descriptive text as regards these figures.

**7.17** As regards claims 32-34, *Watts* clearly teaches *wherein said one of said plurality structural systems being modeled is a two-dimensional/three-dimensional system* (see Col. 4 lines 30-33).

**7.18** As regards claim 35, *Watts* does not expressly disclose, *defining a user-defined application mode* however, *Sagawa* teaches using a computer interface to enable a *user defined application mode*, see Figure(s) 21-24 and the descriptive text regarding these figures.

**7.19** As regards claim 36, *Watts* does not expressly disclose, *defining an object class corresponding to said user-defined application mode; and defining a first portion of methods including in said object class using functionality that is inherited from other classes*, however, *Sagawa* teaches, (Col. 8 lines 45-68 and Col. 9 and Col. 10 lines 1-61 and Figures 8-10).

**7.20** As regards claim(s) 37 & 38 and using claim 37 as an example, *Watts* does not expressly disclose *overloading a second portion of methods to provide alternate functionality*, however, *Sagawa* teaches (Col. 8 lines 45-68 and Col. 9 and Col. 10 lines 1-61 and Figures 8-10) and *overloading* would be well known to an artisan of ordinary skill in the Object-Oriented Programming Art.

**7.21** As regards claim 39, *Watts* does not expressly disclose, *defining an application that is a subclass of an existing class corresponding to functionality of an application node* however, *Sagawa* teaches a hierarchy of object classes which include *subclasses* as is denoted by their position within the object hierarchy, see Figures 19 & 20 where the Examiner is interpreting items 1004, 1010, 1005, 1006 and 1007 as being members of a *subclass*.

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**7.22** As regards claims 40, *Watts* does not expressly disclose *wherein said application mode is user configurable* however, *Sagawa* teaches a user interface which is used to configure *application modes* see Figure 2 item 10 “Receive Physical Model from User” and further see Figure(s) 21-24 and the descriptive text as regards Figure(s) 2 and 21-24.

**7.23** As regards claim 41, *Watts* teaches that, *said application modes is predefined*, see Col. 5 lines 10-22, more specifically, “...The entity being transported could for example be mass or volume of fluid, number of particles, thermal energy, radiation or electricity. If the physical system being simulated is a hydrocarbon reservoir, transportability as used in the description of the invention is synonymous with transmissibility...” which is being interpreted to mean that the *application mode* being a *hydrocarbon reservoir* has been *predefined* to have *transportability*.

**7.24** As regards newly presented claim 102, *Watts* discloses, *wherein said representation of at least one of said plurality of structural systems as two or more selected application modes modeling physical quantities includes a time dimension*, see the teaching of *time steps* as disclosed in Col. 7 lines 2-51, note the discussion of time-steps.

**7.25** As regards claims 103, 104 and 105 *Watts* does not expressly disclose, *storing said output of said model of said combined structural system in a computer readable memory or in a computer readable storage system located within said first physical computing device or said second physical computing device*, however, *Sagawa* teaches the use of two computer apparatus, see Col. 8 lines 14-16 and teaches the storage of information as regards the simulation of the physical structure, see Col. 10 lines 64-68 and Col. 11 lines 1-40.

**7.26** As regards claims 106 & 107, *Watts* does not expressly disclose, *storing said output of said model of said combined structural system in a data storage system, said data storage system*

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*communicatively connected to said communication device and to a plurality of host computers comprising at least one of said first computing device and said second computing device,* however, *Sagawa* teaches, teaches the use of two computer apparatus, see Col. 8 lines 14-16 and teaches the storage of information as regards the simulation of the physical structure, see Col. 10 lines 64-68 and Col. 11 lines 1-40 and as regards the teaching of the computing devices being *communicatively connected to said communication device* the examiner is interpreting this to mean that two separate computational systems are able to communicate with each other. At the time of Applicants' invention it would have been within the knowledge of an artisan of ordinary skill to have *coupled* at least two computing units together to perform a simulation task.

**7.27** As regards claims 108, 109 & 110, *Watts* does not expressly disclose, *displaying said output of said model of said combined structural system on said display device, wherein said first physical computing device or said second physical computing device comprise said display device* however, *Sagawa* teaches, Figure 2 item 35 as well as Figure 22 and Figure 38 item 3802 and the descriptive text for said figures, as well as Col. 7 starting on line 67, "...the obtained numerical results are displayed via the interface **17...**".

**7.28** As regards dependent claims 43-81, 111 & 112 see the rejections as set forth above for dependent claims 2-34, 102-110.

**7.29** As regards dependent claims 83-91 and 113 see the rejections as set forth above for dependent claims 2-34, 102-110.

**7.30** As regards dependent claims 93, 95-101, 114 and 115 see the rejections as set forth above for dependent claims 2-34, 102-110.

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**7.31** As regards dependent claims 119 and 120, see the rejections as set forth above for dependent claims 2-34, 102-110.

***Conclusion***

**8.** Any inquiry concerning this communication or earlier communications from the examiner should be directed to DWIN M. CRAIG whose telephone number is (571)272-3710. The examiner can normally be reached on 10:00 - 6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul L. Rodriguez can be reached on (571) 272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3710.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dwin McTaggart Craig  
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Simulation, Emulation, Modeling and Design

/Paul L Rodriguez/  
Supervisory Patent Examiner,  
Art Unit 2123